New York State Integrated Pest Management Program

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Efficacy of Resistance to Scab in Transgenic 'McIntosh' Apple Exposed to Populations of *Venturia inaequalis*

Principal Investigators: David M. Gadoury, Robert C. Seem, John L. Norelli, Herb S. Aldwinckle, and Joy Bolar

Department of Plant Pathology, Cornell University, New York State Agricultural Experiment Station, Geneva.

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Abstract. McIntosh apples which have been transformed to express an endochitinase gene from *Trichoderma harzianum* have demonstrated substantial resistance to apple scab in previous greenhouse trials. We inoculated transgenic and control McIntosh trees with ascosporic inoculum, recorded disease development, sporulation, and plant growth in a greenhouse and orchard study. Low disease severity in both greenhouse and orchard made many treatment comparisons inconclusive. In greenhouse evaluations, three transgenic lines became less diseased and lesions produced fewer conidia when compared to the McIntosh control, although the reductions observed were minimal and were not significant at $P = 0.10$. In the orchard, seven of ten transgenic lines developed fewer scabbed leaves per tree. Some, but not all of this reduction may have been due to lower canopy density in eight of the transgenic lines.

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IPM House
630 W. North St.
New York State Agricultural Experiment Station
Geneva NY 14456
315-878-2353